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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,708	08/05/2003	Joseph A. Swift	D/A2211	7389

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EXAMINER	
LAM, CATHY FONG FONG	

ART UNIT	PAPER NUMBER
1775	

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/634,708	SWIFT ET AL.	
	Examiner	Art Unit	
	Cathy Lam	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08-05-2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 11, 12, 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by McCullough Jr. et al (US 4868038).

McCullough discloses a composite material matrix comprised of a resin matrix and a reinforcing material.

The reinforcing material is a fiber material includes carbon or graphite fibers, glass fibers and synthetic fibers (col 6 L 27-37). The carbon fibers can be blended with a synthetic or natural fibers (col 6 L 27-28). The examiner takes the position that the carbon fibers are conductive members and the synthetic or natural fibers are non-conductive members.

The fibers are incorporated into the resin matrix to form a composite material in a sheet, a multilayered structure (col 6 L 50-53). The resin matrix can be a thermoplastic, a thermosetting resin or a rubber material (col 2 L 26-30).

The carbon fiber is derived from stabilized polyacrylonitrile based materials (col 3 L 38-43). The composite material in a single or multilayered assembly can be formed by conventional lamination method (col 6 L 53-61).

3. Claims 1-13 and 20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Swift et al (US 5843567).

Swift teaches an electrical component for making electrical contact with another component or electrical devices (col 1 L 5-8).

The electrical component if comprised of a plurality of electrically conductive fibers embedded in a non-conductive matrix. The electrical component has an axial direction with two ends (col 3 L 16-19). The electrically conductive fibers being oriented in the matrix in a substantially parallel axial direction and being continuous from one end to the other end to provide electrical point contacts at each end of the component (col 3 L 20-22).

The electrically conductive fibers are carbon or graphite fibers and blended with ceramic or organic fibers (col 7 L 53-55). The non-conductive matrix is a polymeric material such as thermoplastic, thermosetting, or rubber (col 8 L 64 – col 9 L 6).

The composite is formed by pultrusion process and fibrillation of at least one end region to form an electrical conductive region (col 4 L 47-48).

4. Claims 1-25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Swift et al (US 5281771).

Swift discloses a connector and a multilayer wiring board. The connector is comprised of an electrically insulating polymer matrix and electrically insulating fibrous filler (col 2 L 62-65).

The connector is placed between and adjacent to two printed wiring boards (col 3 L 23-25). The connector includes a dielectric substrate (or polymer matrix) having through holes and a corresponding plurality of pultrusions. Each pultrusion includes a plurality of electrically conductive fibers and electrically conductive or insulating host

material. Each of the plurality of pultrusions being located in a respective through hole and being fibrillated portions extending from surfaces (col 3 L 13-20).

The electrically conductive fibers are carbon fibers; non-electrically conductive fibers such as cellulose, can be doped into the polymer matrix (col 9 L 25-32).

The prior art teaches the present invention but is silent about the area of the conductive member occupies from 0.01 to 99.5 % of the substrate member area, nor does it teach the state of the non-fibrillated region is in hard state. The prior art is also silent about the shape of the composite member.

In view of Swift's teaching, it would have been obvious that the conductive member occupies from 0.01 to 99.5% of the substrate member area because the range is so broad, one could easily fabricate a conductive member with conductive area falls with this range.

Furthermore, in view of Swift's teaching, the polymer matrix can be any suitable resinous material that can be a hard material after curing. It would also be obvious to one skill artisan to choose a desired shape for the invention because it is a matter of design choice.

5. Claims 26-37 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Swift et al (US 5843567).

Swift reference teaches a substrate member that is used to connect with an electrical device. The substrate member is comprised of an electrical insulating matrix and reinforced electrically conductive and non-conductive fibers.

In view of Figure 5, the conductive composite has a notch that formed into the matrix portion (col 13 L 51-62). The fibrillated brush structure is separated by the V cut notch (Fig. 5). The examiner takes the position that the V cut notch functions as a continuity break along the length of the conductive member as claimed by the applicant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cathy Lam
Primary Examiner
Art Unit 1775

cfl
October 06, 2005